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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,057	01/18/2000	Keun-Ho Shin	P55955	9201

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WASHINGTON, DC 200051202

EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/484,057

Applicant(s)

SHIN, KEUN-HO

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,7 and 9-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 9-34 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 12
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7 and 9-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. US 5,481,183 (Johnson) in view of Faris US 5,347,525 (Faris).

Re claims 1, 2, 3 and 17

Johnson disclosed an input unit comprising a lensed fiber (Figure 1, col./line: 3/1-25) receiving an optical signal via an optical transmission medium and producing a collimated beam of optical signals, said input unit further comprising a concave lens (10) receiving said collimated beam and outputting a plurality of optical signals that have a contiguous range of incidence angles according to the wavelengths each of said plurality of optical signals; and

a filter for receiving said plurality of optical signals from the input unit (etalon) Johnson does not disclose a WDM but an optical carrier that is modulated by an RF signal producing a carrier frequency and several side bands of which the wavelength separation is a fraction of a nanometer.

Faris disclosed a method of monitoring a WDM signal with detectors that has been separated with an etalon (figure 4A, e.g., col./line: 6/5-10, 7/20-30).

However, it would have been obvious to one of ordinary skill in the art at the time of invention to use the Faris e/o modulators along with the WDM source in place of the RF modulator and single carrier in Johnson for the benefit of generating carrier

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frequencies sufficient for high bandwidth application as disclosed by Faris (see col./line: 1/10-20).

Re claim 4,

Johnson does not disclose converting the signal from the detector array into electrical signals. However it would have been obvious to one of ordinary skill in the art to claim as such. One is motivated as such since Johnson disclosed a video camera (col./line: 4/5-15) that is use as a spectrum analyzer. Video cameras are known to produce electrical signals particularly if needed to drive electronics for a spectrum analyzer.

Re claims 5, 12 -14

Johnson disclosed a pixel array (16) is placed to permit illumination of the array by the portion of light transmitted through the etalon (e.g., col./line: 4/5-15) at a continuous range of incidence angles (.36 to -.36 degrees, col./line: 3/25-27). Both the video camera (17) and monitor (19) as shown in Figure 1 are widely known to include microprocessors.

Re claims 7, 10, 15 and 21, Johnson does not disclose an amplifier as claimed. Faris disclosed amplifiers following the demux (62 or etalon as indicated above) in an optical system. It would have been obvious to one of ordinary skill add the amplifiers of Faris to the Johnson system to obtain the claimed invention. One is motivated as such since a loss of signal commonly occurs after filtering which necessitates the use of amplifiers to strengthen the signal downstream.

Re claims 11 and 16, Johnson disclosed a Fabry-Perot etalon filter (Figures 1 and 9 #13).

Re claims 9, 18-20, 22-29 and 30-34,

Johnson and Faris do not disclose the dimensions and ranges as claimed. However, it would have been obvious to one of ordinary skill in the art at the time of invention to

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claim optimum values for the purpose of wavelength demultiplexing. Discovery of an optimum value of a result effective variable or optimum range is within the skill of the art. See *In re Antonie*, 559 F. 2d 618, 195 USPQ 6 (CCPA 1977) and *In re Aller*, 105 USPQ 233 (CCPA 1955).

***Response to Arguments***

3. Applicant's arguments with respect to claims 1 - 5, 7, and 9-34 have been considered but are moot in view of the new ground(s) of rejection.
4. Regarding applicant's assertion that Johnson '183 analyzes the spectral components of an RF or microwave signal and not an optical signal. Examiner disagrees. Johnson uses an RF signal (figure 1 #6) to modulate (5) a laser (1) that clearly produces an optical signal. Examiner does agree however with the applicant's assertion that Johnson examines 'extremely minute differences in wavelength' which supports the Examiner's assertion of an optical signal. The Examiner would agree while the structure of the Johnson is similar to applicant's the scale of wavelength separation is distinguished from applicant's. For this reason, Faris has been cited for the teaching of monitoring WDM signals with separation by a demultiplexer or etalon as disclosed above. Faris is used to teach the function of modulation several optical carriers in a WDM signal and separation by an etalon. Thus, the applicant's claims as cited above are deemed obvious over the combination of Johnson and Faris.
5. Regarding the disposition of the case. The Examiner apologies for the inadvertent indication of Finality in the last office action. The previous action and this action are non-final.

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***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp  
August 19, 2003

  
JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600